



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/733,094

12/11/2003

David Meltzer

NP007

9145

20178

7590

04/07/2006

EPSON RESEARCH AND DEVELOPMENT INC  
INTELLECTUAL PROPERTY DEPT  
150 RIVER OAKS PARKWAY, SUITE 225  
SAN JOSE, CA 95134

EXAMINER

SHINGLETON, MICHAEL B

ART UNIT

PAPER NUMBER

2817

DATE MAILED: 04/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

8

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/733,094	MELTZER, DAVID	
	<b>Examiner</b>	<b>Art Unit</b>	
	Michael B. Shingleton	2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 18-28, 47-57 and 72-82 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-28, 47-57 and 72-82 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date IAS 12/11/2003 one sheet.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

*Michael B. Shingleton*  
**MICHAEL B. SHINGLETON**  
**PRIMARY EXAMINER**  
**PROPRIETARY**

*Double Patenting*

Claims 18-28 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, 5, 7, 9, 11-15, and 18 of copending Application No. 10/733,143 in view of Toncich US2002/01494324 (Tonicich).

The claims of the '143 application includes the specifics of the temperature compensation circuit which is also claimed in the claims of the instant '094 application (Note claim 18 for example in the '094 application). The claims of the '143 application are silent on the details of a variable frequency oscillator that includes the specific temperature compensation circuit as is set forth in claims of the '094 and '143 applications. Tonicich teaches a variable frequency oscillator having at least two tunable sub-circuits for tuning frequency and temperature. Tonicich is silent on the details of the temperature compensation circuit as shown by the box diagram 204 and thus the temperature compensation circuit could be composed of a variety of different structures. Thus it would have been obvious to one of ordinary skill in the art to have employed the claimed temperature compensation circuit in a circuit like that of Tonicich because as the Tonicich reference is silent on the details of the temperature compensation circuit one of ordinary skill in the art would have been motivated to utilize any temperature compensation circuit in place thereof. In other words claims like 18 of the '094 application is relying on the details of the temperature compensation circuit as claimed in the '143 application for patentability and thus these claims are not considered patentably distinct (See MPEP 806.05(c)II).

This is a provisional obviousness-type double patenting rejection.

Claims 47-57 and 72-81 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, 5, 7, 9, 11-15, and 18 of copending Application No. 10/733,143 in view of Chien 6,225,871 (Chien) and Toncich US2002/01494324 (Tonicich).

The claims of the '143 application includes the specifics of the temperature compensation circuit which is also claimed in the claims of the instant '094 application (Note claim 18 for example in the '094 application). The claims of the '143 application are silent on the details of a variable frequency oscillator that includes the specific temperature compensation circuit as is set forth in claims of the '094 and '143 applications. The claims of the '143 application are silent on the use of a cross-coupled inverter. Figure 2 and the relevant text of Chien disclose that the typical oscillator includes cross-coupled inverters P1, P2, N1, N2 and a resonant circuit 10 composed of cathode-connected varactors and an inductor as is clearly illustrated.

Toncich discloses that a resonant circuit for an oscillator can include two tunable sub-circuits C1, C2, FE1, FE2 with one being responsive to temperature and one being responsive to a frequency control input. This allows for frequency compensation to be done at the same time as varying the frequency. Toncich also discloses a variable frequency oscillator 200 having a temperature compensation node (Note the node between elements C2 and FE2.), a frequency control node (Note the node between elements C1 and FE1.) and a resonant circuit composed in part by the crystal oscillator and the capacitors C1, C2 and elements FE1, FE2. The resonant circuit is composed of a first tunable sub-circuit composed of elements C2 and FE2 that is responsive to the temperature control signal and is independent a second sub-circuit composed of elements C1 and FE1 that is responsive to a frequency control signal. Because the tunable sub-circuits are independent and are connected in parallel with one another the invention of Toncich is fully capable of providing the function of continually responding to both the frequency control and the temperature control signals at the same time. The FE1 and FE2 are clearly variable impedance elements. Note that Figure 1 shows an electronic device including the variable frequency oscillator 200.

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added an additional varactor sub-circuit to Chien so as to allow for frequency compensation to be done at the same time as varying the frequency as taught by Toncich.

Toncich also teaches a variable frequency oscillator having at least two tunable sub-circuits for tuning frequency and temperature. Toncich is silent on the details of the temperature compensation circuit as shown by the box diagram 204 and thus the temperature compensation circuit could be composed of a variety of different structures. Thus it would have been obvious to one of ordinary skill in the art to have employed the claimed temperature compensation circuit in a circuit made obvious above because as the Chien and Toncich reference are silent on the details of the temperature compensation circuit one of ordinary skill in the art would have been motivated to utilize any temperature compensation circuit in place thereof. In other words claims like 47 of the '094 application is relying on the details of the temperature compensation circuit as claimed in the '143 application for patentability and thus these claims are not considered patentably distinct (See MPEP 806.05(c)II).

This is a provisional obviousness-type double patenting rejection.

#### *Response to Arguments*

Applicant's arguments filed 11-16-2005 have been fully considered but they are not persuasive. Applicant remarks makes some remarks concerning the submission of a terminal disclaimer. To answer these remarks a proper terminal disclaimer is needed to overcome the double patenting rejection.

*Conclusion*

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael B. Shingleton whose telephone number is (571)272-1770.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal, can be reached on (571)272-1769. The fax number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MBS  
November 8, 2005  
April 01, 2006

  
Michael B Shingleton  
Primary Examiner  
Group Art Unit 2817